The details of the calculations may appear, many of them, too extended and elementary; nevertheless, I have given them in full in order to enable one to check one's position should one's recollection fail, as might easily occur owing to so many values coming into consideration.
| ; " All formulas arrived at are, moreover (in so far as they have general validity), assembled in the Appendix, so that one is not obliged to seek them in the text.
My papers published in " Stahl und Eiseii " in 1905, on working molten pig iron in basic lined open-hearth furnaces, have served as a basis, which I have elaborated.
In so doing, it appeared to me necessary to make certain allowances in the calculations of the amount of iron peroxide required for the removal of the reducing agents, and to take into consideration those amounts of ferrous oxide which remain in the slag, and which must be produced owing to the action of the individual reducing agents. As a consequence, the figures for the iron peroxide required for eliminating silicon have been increased, but for carbon decreased; whilst conversely the growth of charge due to silicon appears less, and that due to carbon appears larger than in the papers mentioned.
I am largely indebted to two instructive books, the first % part of "Leitfadens zur Eisenhuttekun.de," i.e., " Feuerungs-kunde," by Th. Beckert, which by its references and its tables of the values of specific heats of gases at various temperatures rendered it possible for me to calculate the temperatures of reaction : and Campbell's " Manufacture of Iron and Steel," which suggested many new points of view.
To these gentlemen, as well as many others whose names are mentioned in the text, I tender my most grateful thanks.
(Signed) CABL DICHMANN. RIGA.,
November, 1909.